DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-019423
Date Inspected: 21-Jan-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 700
OSM Departure Time: 1900
Location: Shanghai, China

CWI Name:	An Qing Xiang			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: OBG

Summary of Items Observed:

On this day CALTRANS OSM Quality Assurance (QA) Inspector Umesh Gaikwad was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island in Shanghai, China. QA observed and/or found the following:

BAY 14, OBG 13AW (NWIT # 08254)

This QA inspector performed Ultrasonic Testing (UT) of approximately 10% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA inspector generated UT report for this date. The members are identified as OBG Components. The weld designations reviewed are as follows.

SEG3013K-003
SEG3013AH-018
SEG3013Y-347, 349, 351, 353, 355, 413, 415, 357, 359, 361, 365, 417, 419, 367, 371, 373, 375, 421, 423
SEG3013Y-363 (One class “A” UT rejectable indication found)
SEG3013Y-369 (Two class “A” UT rejectable indications found)

During the Quality Assurance Ultrasonic Testing (UT) verification of welds located on OBG lift 13A West, this Quality Assurance (QA) Inspector discovered the following issues:

-One class “A” longitudinal indication measuring approximately 20mm in length.

-The depth of the indication is 27mm from face A.
-The db rating is +5.
-The material thickness is 35mm.
-The weld is identified as: SEG3013Y-363.
-The Weld is a Complete Joint Penetration (CJP), Tee-joint, joining the stiffener X4357C of Floor Beam (FB) 3187A to the Sub Assembly (SA) plate SA3167A at Panel point (PP) 119.
-The "Y" location of the indication is 155mm from the free edge of the stiffener (as shown in attached photograph).

-The indication is clearly marked on the component.
-The material is identified as Seismic Performance Critical Member (SPCM).
-The member is located in Bay 14.

-Two class "A" longitudinal indications measuring approximately 20mm and 22mm in length respectively.
-The depth of the indications is 30mm and 31mm respectively from face A.
-The db rating is +7 for each.
-The material thickness is 35mm.
-The weld is identified as: SEG3013Y-369.
-The Weld is a Complete Joint Penetration (CJP), Tee-joint, joining the stiffener X4357A of Floor Beam (FB) 3191A to the Sub Assembly (SA) plate SA3167B at Panel point (PP) 119-1500.
-The "Y" location of the indications is 20mm and 120mm respectively from the free edge of the stiffener (as shown in attached photograph).
-The indication is clearly marked on the component.
-The material is identified as Seismic Performance Critical Member (SPCM).
-The member is located in Bay 14.

The Notice of Witness Inspection Number (NWIT) is 08254. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC's QC personnel are required to perform 100% UT inspection of these welds. Attached photographs provide additional location details.

This issue has an incident report.

This Quality Assurance (QA) Inspector observed the following work in progress:

Bay 14

OBG Seg 14W:

Repair welding of weld joint no: SEG3020X-008 [Longitudinal Diaphragm (LD) 3051A to Floor beam (FB) 3327A, complete joint penetration (CJP) weld at panel point (PP) 127]. The welder is identified as 066398 and was observed welding in the 3G position. Welding process was identified as Shielded Metal Arc Welding (SMAW). ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by this QC appeared to comply with WPS: 345-SMAW-3G(3F)-FCM-Repair. Repair welding was done as per Welding Repair Report (WRR): B-WR 20152 Rev-0.

Repair welding of weld joint no: SEG3020BB-028 [Vertical Shear Plate, Sub Assembly (SA) SA3446A to Bottom Plate (BP) 3088A, complete joint penetration (CJP) weld]. The welder is identified as 067942 and was observed welding in the 2G position. Welding process was identified as Shielded Metal Arc Welding (SMAW). ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by this QC appeared to comply with WPS: 345-SMAW-2G(2F)-FCM-Repair. Repair welding was done as per Critical Welding Repair (CWR) Report: B-CWR 2752 Rev-0.

Repair welding of weld joint no: SEG3020BB-037 [Vertical Shear Plate, Sub Assembly (SA) SA3447A to Bottom Plate (BP) 3089A, complete joint penetration (CJP) weld]. The welder is identified as 066038 and was observed welding in the 2G position. Welding process was identified as Shielded Metal Arc Welding (SMAW). ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by this QC appeared to comply with WPS: 345-SMAW-2G(2F)-FCM-Repair. Repair welding was done as per Critical Welding Repair (CWR) Report: B-CWR 2752 Rev-0.

Repair welding of weld joint no: SEG3020BB-019 [Vertical Shear Plate, Sub Assembly (SA) SA3445A to Bottom Plate (BP) 3089A, complete joint penetration (CJP) weld]. The welder is identified as 067949 and was observed welding in the 2G position. Welding process was identified as Flux Cored Arc Welding (FCAW). ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by this QC appeared to comply with WPS: 345-FCAW-2G(2F)-ESAB-REPAIR-FCM. Repair welding was done as per Critical Welding Repair (CWR) Report: B-CWR 2752 Rev-0.

Repair welding of weld joint no: SEG3020X-012 [Longitudinal Diaphragm (LD) 3049A to Bottom Plate (BP) 3090A, complete joint penetration (CJP) weld in between Panel Point (PP) 125.5~126]. The welder is identified as 066398 and was observed welding in the 2G position. Welding process was identified as Shielded Metal Arc Welding (SMAW). ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by this QC appeared to comply with WPS: 345-SMAW-2G(2F)-FCM-Repair. Repair welding was done as per Critical Welding Repair (CWR) Report: B-CWR 2659 Rev-1.

Repair welding of weld joint no: SEG3020BB-073 [Vertical Shear Plate, Sub Assembly (SA) SA3451A to Bottom Plate (BP) 3090A, complete joint penetration (CJP) weld]. The welder is identified as 067949 and was observed welding in the 2G position. Welding process was identified as Flux Cored Arc Welding (FCAW). ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by this QC appeared to comply with WPS: 345-FCAW-2G(2F)-ESAB-REPAIR-FCM. Repair welding was done as per Critical Welding Repair (CWR) Report: B-CWR 2752 Rev-0.

During random in process inspection this QA inspector observed that ZPMC personnel were performing Air Carbon Arc Gouging for the excavation of repair. The weld joints are identified as SEG3020D-052 joining FB 3343A to BP 3091A/3092A and SEG3020E-056 joining FB3343A to BP 3092A/3093A. These weld joints are Ultrasonically rejected by ZPMC NDT personnel. Attached photograph provide additional details.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

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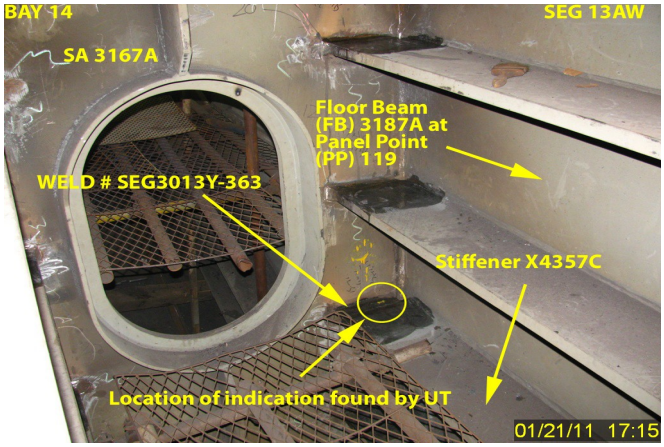

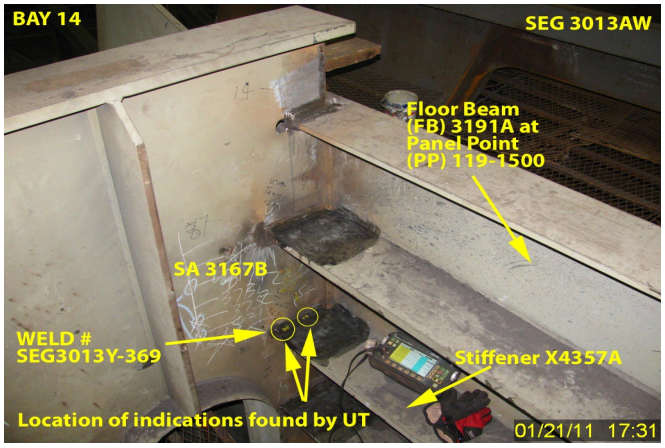

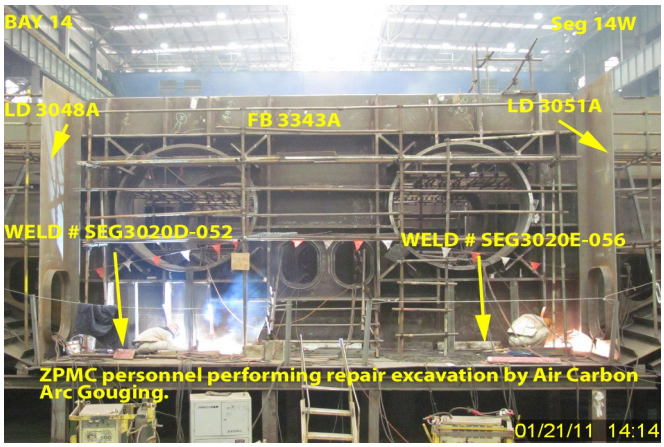

Summary of Conversations:

Only general conversation was held between QA and QC concerning this project.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang : 15000422372, who represents the Office of Structural Materials for your project.

Inspected By:	Gaikwad,Umesh	Quality Assurance Inspector
Reviewed By:	Peterson,Art	QA Reviewer